

August 5, 2022

Mr. Griff Miller USEPA Region 3, 3LC30 1650 Arch St. Philadelphia, PA 19103-2029

Dear Mr. Miller:

Subject: 2022 Annual Report

Inactive Portion of Former ARCO Chemical Company

East Landfill Area, Monaca, PA

CEC Project 142-329

Civil & Environmental Consultants, Inc is submitting the enclosed 2022 Annual Report for the East Landfill Area on behalf of the Beaver County Corporation for Economic Development (BCCED).

The United States Environmental Protection Agency (USEPA) issued a Statement of Basis (SB) in August 2018 for the inactive portions of the former ARCO Chemical Company, including the East Landfill Area. The SB required a Post-Remediation Care Plan (PRCP) be established. This plan was approved by you in June 2019.

This report documents inspection activities conducted in accordance with the *Inspection and Maintenance Plan*, outlined within the PRCP for the East Landfill Area. Included are details regarding quarterly inspections of the final cover system. Site visits occurred on September 27 2021, December 15, 2021, March 23, 2022, and June 23, 2022.

After review of the 2020 Annual Report, concentrations of monitored parameters were below the USEPA Maximum Contaminant Level (MCL) and the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (MSC) through all four quarters of monitoring. The USEPA and Pennsylvania Department of Environmental Protection (PADEP) authorized the decommissioning of monitoring wells EL-6, EL-7 and EL-8 in emails dated July 22, 2020 and July 23, 2020. Monitoring well abandonment took place August 27-28, 2020 and was documented in 2020 Monitoring Well Abandonment sent via email to the USEPA dated November 13, 2020.

We are available to discuss this report at your convenience if any questions or concerns arise during your review.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Brianne J. Hastings, P.G.

Buranne () Hastings

Project Manager

Martin C. Knuth, P.G. Vice President

Enclosure: 2022 Annual Report

cc: Matthew Barch, PADEP Lew Villotti, BCCED

## 2022 ANNUAL REPORT

# LE PETOMANE EAST LANDFILL AREA MONACA, PA

# **Prepared For:**

## BEAVER COUNTY CORPORATION FOR ECONOMIC DEVELOPMENT

**Prepared By:** 

CIVIL & ENVIRONMENTAL CONSULTANTS, INC. PITTSBURGH, PA

CEC Project 142-329

**AUGUST 2022** 



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## **FIGURE**

Figure 1 – Site Layout

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### 1.0 INTRODUCTION AND PURPOSE

The United States Environmental Protection Agency (USEPA) issued a Statement of Basis (SB) in August 2018 for the inactive portions of the former ARCO Chemical Company, including the East Landfill Area (USEPA, 2018), located in Monaca, PA. The SB outlines the USEPA's proposed remedy for the facility which consists of monitored natural attenuation (MNA) at the former waste disposal areas, compliance with a Post-Remediation Care Plan (PRCP), and the implementation of land and groundwater use restrictions.

The Beaver County Corporation for Economic Development (BCCED) purchased East Landfill Area from Le Petomane XXIII, Inc. (Le Petomane) in order to provide a buffer area for the Shell ethane cracker plant under construction. As such, BCCED has assumed the operational and maintenance (O&M) obligations for the East Landfill Area from Le Petomane. Mr. Griff Miller at USEPA sent an e-mail to the BCCED on October 5, 2018 requesting BCCED develop a Post-Remediation Plan (PRCP) as outlined in the SB. Further information concerning the PRCP was outlined in the USEPA's Final Decision and Response to Comments, dated September 28, 2018. The PRCP consists of three parts: Soil Management Plan (with Health and Safety Plan), Inspection and Maintenance Plan, and Groundwater Monitoring Plan. The final PRCP was approved by the USEPA in June 2019. After review of the 2020 Annual Report, it was concluded that long-term groundwater monitoring was no longer necessary as part of the initial September 2018 PRPC per e-mail correspondence between the USEPA and the Pennsylvania Department of Environmental Protection (PADEP) dated July 22, 2020 and July 23, 2020, respectively.

This report documents the inspection and maintenance performed by Civil & Environmental Consultants, Inc. (CEC) since the PRCP was approved and serves as the annual report for 2022. CEC site visits occurred on the following days:

- Third quarter September 27, 2021
- Fourth quarter December 15, 2021
- First quarter March 23, 2022
- Second quarter June 23, 2022

This report includes details regarding the inspections of the final cover system and site security. Notable observations are included in the narrative. Supporting documentation is provided in the appendices.

### 2.0 INSPECTION AND MAINTENANCE SUMMARY

### 2.1 FINAL COVER CONDITION

CEC personnel walked the East Landfill Area during all four quarters to visibly observe the condition of the final covers. The areas observed are depicted on Figure 1 and additional information, including the observation checklist and photographs from the four quarters, are provided in appendices A and B, respectively. Significant findings are summarized below.

- Minor erosion along Poorhouse Run, near former well location EL-7. Seen in all site visits.
- Ponding water observed in the Latex and Phosphate areas 4Q21 and 1Q22. Not observed in 3Q21 or 2Q22.

No animal burrows or other signs of erosion were observed.

### 2.2 GROUNDWATER MONITORING WELL CONDITION

Groundwater monitoring wells were not evaluated since they were abandoned August 27-28, 2020.

### 2.3 STORMWATER MANAGEMENT DEVICES

While on-site, CEC personnel visibly observed the condition of the stormwater management devices. The culverts and catch basins observed are depicted on Figure 1 and additional information, including the observation checklist and photographs, are provided in appendices A and B, respectively. There were no significant findings observed. All stormwater management devices appear to be functioning properly.

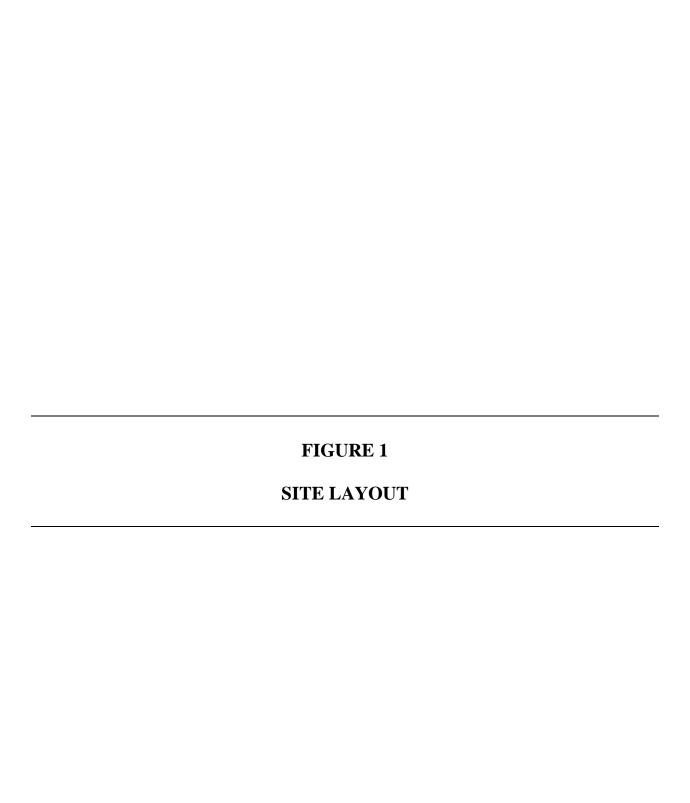
### 2.4 EAST LANDFILL AREA SECURITY SYSTEM

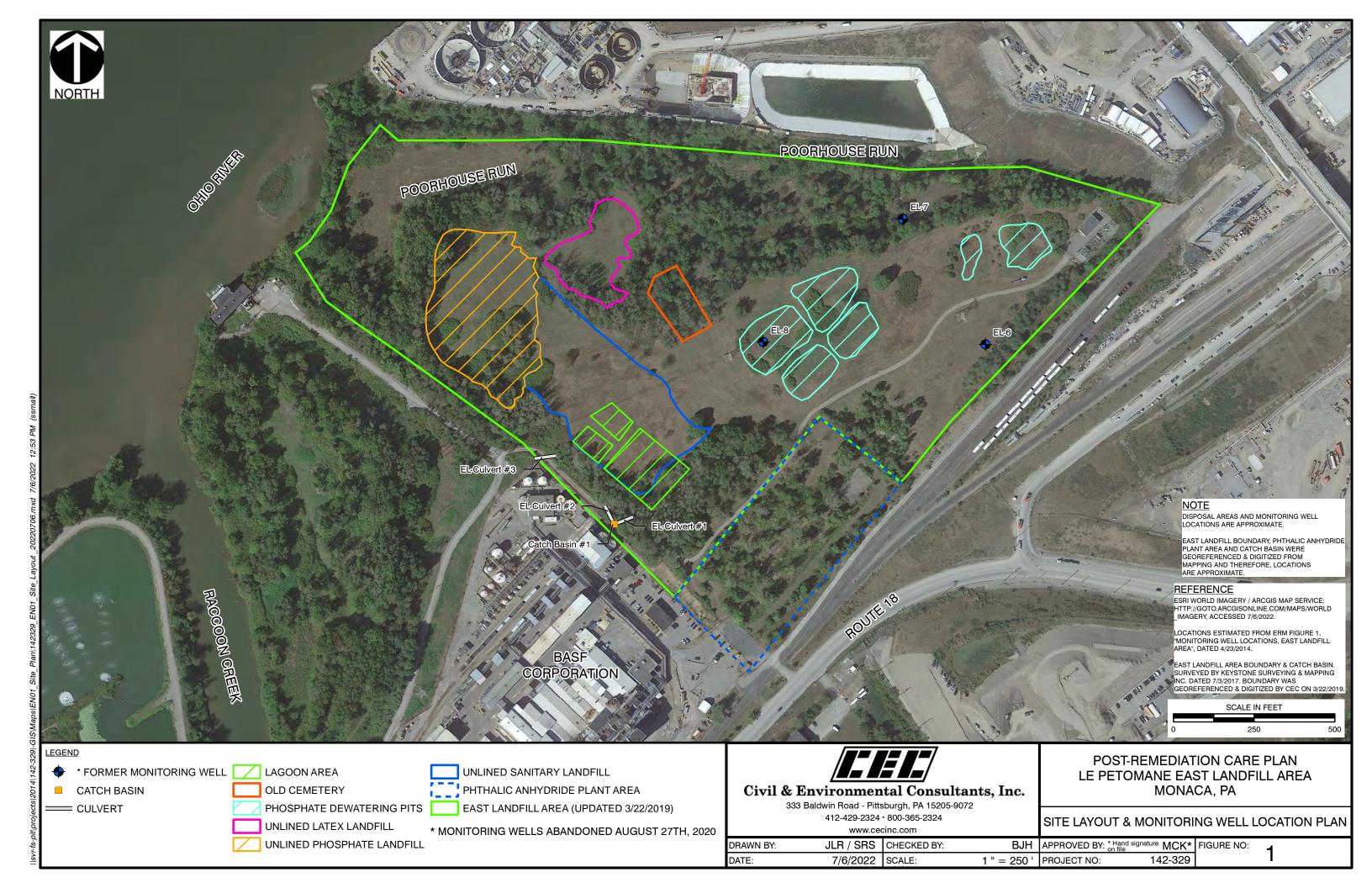
While on-site, CEC personnel visibly observed the condition of the fence along the perimeter of the property. The property perimeter is depicted on Figure 1 and additional information, including the observation checklist and photographs, are provided in appendices A and B, respectively. Significant findings are summarized below.

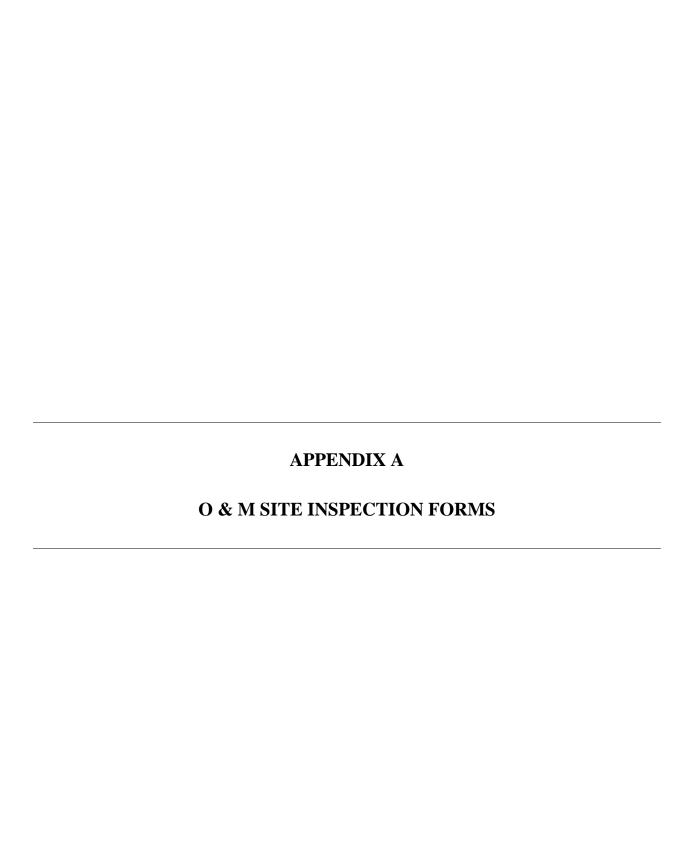
- The fence around the southwest and southeast perimeters, close to the main entrance, is damaged.
- No signs of suspected vandalism were observed.

### 3.0 CONCLUSION

The final cover remains in good condition, with the cover and vegetation fully established. The only notable issue is minor erosion of the bank along the Poorhouse Run, near former monitoring well location EL-7. A similar erosion pattern has been noted in this area during since 2018, and the extent of erosion has not expanded since that time and appears stable. Lastly, the perimeter fence remains damaged, jeopardizing site security.







# East Landfill Area Operation and Maintenance Plan Inspection Form

**Quarterly Inspection:** 

animal burrows	First Quarter □ Second Quarter □ Third Quarter ⊠ Fourth Quarter □ Year: 2021				
INSPECTION ITEM	PROPER FUNCTIONING <sup>1</sup>	OBSERVATIONS <sup>2</sup>	NATURE AND DATE OF MAINTENANCE/REPAIR/REPLACEMEN		
Final Cover System					
Adequate stand of vegetation	⊠ Yes □ No				
Evidence of missing vegetation	☐ Yes ⊠ No				
Evidence of stressed vegetation	☐ Yes ⊠ No				
Mowing required	☐ Yes ⊠ No				
Brush, shrubs, or tree saplings present	☐ Yes ⊠ No				
Evidence of erosion	☐ Yes ⊠ No				
Evidence of slope failure	☐ Yes ⊠ No				
Settlement/subsidence	☐ Yes ⊠ No				
Surface water accumulation	☐ Yes ⊠ No				
Groundwater Monitoring System	<b>_</b>				
Well casings locked	□ Yes □ No	Wells removed in August 2020. No signs of subsidence at former well locations.			
Locks in good working order	☐ Yes ☐ No				
Well identification present	☐ Yes ☐ No				
Well integrity					
Casing subsidence	□ Yes □ No				
Casing blockage	□ Yes □ No				
Casing cracked and/or broken	□ Yes □ No				
Stormwater Management Devices					
Proper Functioning	⊠ Yes □ No				
Evidence of debris blocking flow	☐ Yes ⊠ No				
Damage	□ Yes ⊠ No				
Site Security					
Fence					
Deterioration	☐ Yes ⊠ No				
Missing sections	□ Yes ⊠ No				
Damage	⊠ Yes □ No	See Attached Photos			
Gates					
Gates present	⊠ Yes □ No				
Proper functioning	⊠ Yes □ No				
Locks present and locked	⊠ Yes □ No				

# Page 2 of 2 Le Petomane – East Landfill area Operation and Maintenance Plan

Locks in good working order	⊠ Yes □ No	
Deterioration	□ Yes ⊠ No	
Missing sections	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Signs		
Present	⊠ Yes □ No	
Properly secured to fence	⊠ Yes □ No	
Deterioration	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Quality of lettering	⊠ Yes □ No	

- NOTES:
  (1) Indicate with "Yes" or "No" as appropriate.
  - (2) Use additional sheets as necessary.

INSPECTOR'S SIGNATURE:	pho probt	(Ken Robertson)	DATE OF INSPECTION:	09/27/21	_
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# East Landfill Area Operation and Maintenance Plan Inspection Form

		Quarterly Inspection	<u>:</u>			
First Quarter □	Second Quarter	Third Quarter □	Fourth Quarter	$\boxtimes$	Year:	2021

INSPECTION ITEM	PROPER FUNCTIONING <sup>1</sup>	OBSERVATIONS <sup>2</sup>	NATURE AND DATE OF MAINTENANCE/REPAIR/REPLACEMENT <sup>2</sup>	
Final Cover System				
Adequate stand of vegetation	⊠ Yes □ No			
Evidence of missing vegetation	☐ Yes ⊠ No			
Evidence of stressed vegetation	□ Yes ⊠ No			
Mowing required	□ Yes ⊠ No			
Brush, shrubs, or tree saplings present	☐ Yes ⊠ No			
Evidence of erosion	☐ Yes ⊠ No			
Evidence of slope failure	☐ Yes ⊠ No			
Settlement/subsidence	☐ Yes ⊠ No			
Surface water accumulation	⊠ Yes □ No	Minor-Latex and Phosphate Areas		
Groundwater Monitoring System				
Well casings locked	□ Yes □ No	Wells removed in August 2020. No signs of subsidence at former well locations.		
Locks in good working order	□ Yes □ No			
Well identification present	□ Yes □ No			
Well integrity				
Casing subsidence	□ Yes □ No			
Casing blockage	□ Yes □ No			
Casing cracked and/or broken	□ Yes □ No			
Stormwater Management Devices		<u>,                                      </u>		
Proper Functioning	⊠ Yes □ No			
Evidence of debris blocking flow	☐ Yes ⊠ No			
Damage	□ Yes ⊠ No			
Site Security				
Fence				
Deterioration	☐ Yes ⊠ No			
Missing sections	☐ Yes ⊠ No			
Damage	⊠ Yes □ No	See Attached Photos		
Gates				
Gates present	⊠ Yes □ No			
Proper functioning	⊠ Yes □ No			
Locks present and locked	⊠ Yes □ No			

# Page 2 of 2 Le Petomane – East Landfill area Operation and Maintenance Plan

Locks in good working order	⊠ Yes □ No	
Deterioration	□ Yes ⊠ No	
Missing sections	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Signs		
Present	⊠ Yes □ No	
Properly secured to fence	⊠ Yes □ No	
Deterioration	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Quality of lettering	⊠ Yes □ No	

- NOTES:
  (1) Indicate with "Yes" or "No" as appropriate.
  - (2) Use additional sheets as necessary.

INSPECTOR'S SIGNATURE: /Lufult (Ken	Robertson) DATE OF INSPECTION:	12/15/21
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# East Landfill Area Operation and Maintenance Plan Inspection Form

Quarterly Inspection:									
First Quarter ⊠		Second Quarter		Third Quarter		Fourth Quarter		Year:	2022

INSPECTION ITEM	PROPER FUNCTIONING <sup>1</sup>	OBSERVATIONS <sup>2</sup>	NATURE AND DATE OF MAINTENANCE/REPAIR/REPLACEMENT <sup>2</sup>	
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Evidence of stressed vegetation	☐ Yes ⊠ No			
Mowing required	□ Yes ⊠ No			
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Evidence of erosion	☐ Yes ⊠ No			
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Settlement/subsidence	☐ Yes ⊠ No			
Surface water accumulation	⊠ Yes □ No	Minor-Latex and Phosphate Areas		
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Evidence of debris blocking flow	□ Yes ⊠ No			
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Fence				
Deterioration	☐ Yes ⊠ No			
Missing sections	☐ Yes ⊠ No			
Damage	⊠ Yes □ No	See Attached Photos		
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Gates present	⊠ Yes □ No			
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# Page 2 of 2 Le Petomane – East Landfill area Operation and Maintenance Plan

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Missing sections	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Signs		
Present	⊠ Yes □ No	
Properly secured to fence	⊠ Yes □ No	
Deterioration	□ Yes ⊠ No	
Damage	□ Yes ⊠ No	
Quality of lettering	⊠ Yes □ No	

- NOTES:
  (1) Indicate with "Yes" or "No" as appropriate.
  - (2) Use additional sheets as necessary.

	1/2 My NA			
INSPECTOR'S SIGNATURE:	10010	(Ken Robertson)	DATE OF INSPECTION:	3/23/22

# East Landfill Area Operation and Maintenance Plan Inspection Form

Quarterly Inspection:							
First Quarter □	Second Quarter	$\boxtimes$	Third Quarter □	Fourth Quarter		Year:	2022

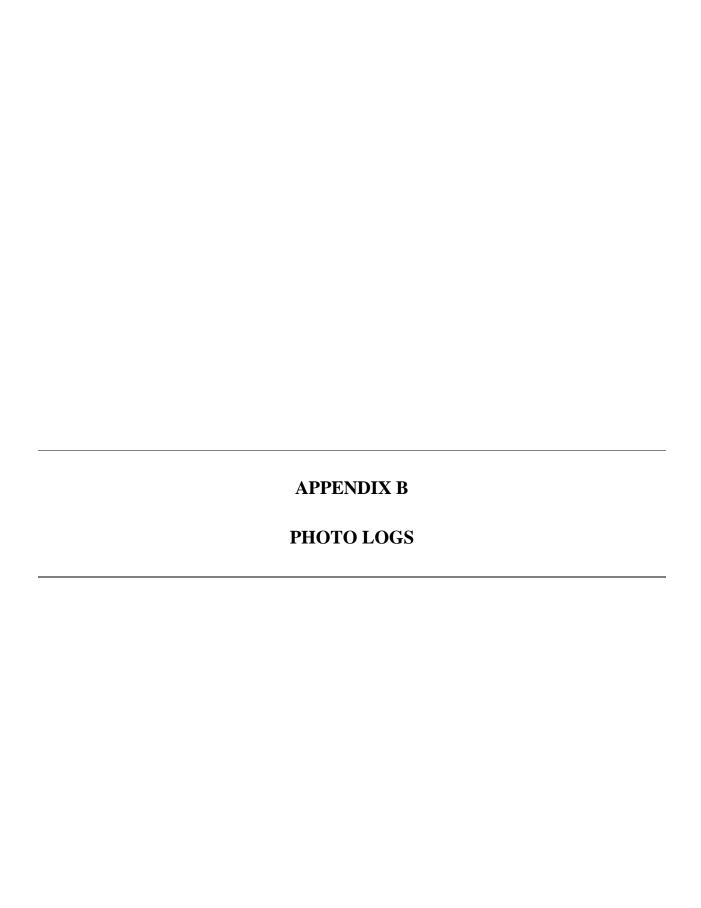
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# Page 2 of 2 Le Petomane – East Landfill area Operation and Maintenance Plan

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Damage	□ Yes ⊠ No	
Signs		
Present	⊠ Yes □ No	
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Damage	□ Yes ⊠ No	
Quality of lettering	⊠ Yes □ No	

- NOTES:
  (1) Indicate with "Yes" or "No" as appropriate.
  - (2) Use additional sheets as necessary.

INSPECTOR'S SIGNATURE:	in sult	(Ken Robertson)	DATE OF INSPECTION:	6/23/22	



# September 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Vegetation Vegetation





Vegetation Culvert EL-1 and aEL-2 as controls look blocked Vegetation





Culvert EL-1 Culvert EL-2



# September 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Culvert EL-3

Old Cemetery





Catch Basin #1

Covered Manhole





Posted Warning Signs

Posted Warning Signs



# September 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Damaged Fence at Main Gate



Damaged Fence, Near Train Tracks



Fence with Signs



Minor Erosion Near EL-7



Main Gate



Signs near the Main Gate



# September 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area



Damaged Fence Along Tracks



Damaged Fence Along Tracks



Loose Fence by Railroad



Damaged Fence



Concrete Pad



Shutoff Valve Along Pumphouse Road



# December 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Vegetation Vegetation





Vegetation Vegetation





Culvert EL-1 Culvert EL-2



# December 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Culvert EL-3

Old Cemetery





Catch Basin #1

Pooling Water near Latex and Phosphate Area





Posted Warning Signs

Posted Warning Signs



# December 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Damaged Fence at Main Gate



Damaged Fence, Near Train Tracks



Fence with Signs



Minor Erosion Near EL-7



Main Gate



Signs near the Main Gate



# December 2021 Inspection and Maintenance Survey Le Petomane East Landfill Area



Damaged Fence Along Tracks



Damaged Fence Along Tracks



Loose Fence by Railroad



Damaged Fence



Concrete Pad



Shutoff Valve Along Pumphouse Road



# March 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Vegetation Vegetation





Vegetation

Where does
culvert
discharge?
What is the
organge liquid
observed in
March 2022
inspection?



Culvert EL-1 Culvert EL-2



# March 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Culvert EL-3

Old Cemetery







Catch Basin #1

Pipe Near BASF Property





Posted Warning Signs

Posted Warning Signs



# March 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Damaged Fence at Main Gate



Damaged Fence, Near Train Tracks



Fence with Signs



Minor Erosion Near EL-7



Main Gate



Signs near the Main Gate



# March 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area



Damaged Fence Along Tracks



Damaged Fence Along Tracks



Loose Fence by Railroad



Pooled Water Phosphate and Latex Area



Concrete Pad



Shutoff Valve Along Pumphouse Road



# June 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Vegetation Vegetation





Vegetation Vegetation





Culvert EL-1 Culvert EL-2



# June 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329





Culvert EL-3

Old Cemetery







Catch Basin #1

Culvert Pipe





Posted Warning Signs

Posted Warning Signs



# June 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area CEC Project 142-329



Damaged Fence at Main Gate



Damaged Fence, Near Train Tracks



Fence with Signs



Minor Erosion Near EL-7



Open Gate on Access Road



Signs near the Main Gate



# June 2022 Inspection and Maintenance Survey Le Petomane East Landfill Area



Fence with Warning Signs



Damaged Fence Along Tracks



Loose Fence by Railroad

Concrete Pad

